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EXAMINER

PEREZ, JULIO R

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/667,136	Applicant(s) THOMSON ET AL.	
	Examiner Julio R. Perez	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 11/20/2006 have been fully considered but they are not persuasive. The applicant argues that Rappaport does not teach comparison of predicted capacity with measured capacity and displaying capacity data based at least on the measured wireless local area network. However, the examiner respectfully disagrees. Rappaport teaches creation (i.e., generating) of channel plan with macrocell locations and power levels (capacity) and collection of field measurements (see Figure 7, #'s 71,12), and, in addition, teaches modifying database parameters based on field measurements and displaying (see Figure 5, # 14) overlaid results and further analyzing differences in predicted and actual measurements (Figure 5, # 16). Hence, giving its broadest and reasonable interpretation, Rappaport teaches fine-tuning the experimental predictions (estimated measurements) and representing them on a model in order to achieve prediction accuracy (matching, comparing). Note that col. 13, lines 35-67-col. 14, lines 1-7, Figures 5-8, teach collecting measurement data and configuring a floor plan model and also displaying results of predictive models, which read on comparing predicted and measured data, and displaying capacity.

Discussion regarding new added claim follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Rappaport et al. (hereinafter Rappaport) [US Patent Number 6,625,454].

Regarding claim 1, Rappaport discloses a method of verifying a plan for a wireless local area network, comprising: receiving measured wireless local area network data (column 13, lines 6-53, RF measurements are received for performance evaluation); comparing the measured wireless local area network data with expected wireless local area network data (column 13, lines 35-53, experimental, i.e., measured values, are compared to predicted values, as used via a predictive model, wherein the engineer studies the interrelations between the actual measurements and the predicted ones), the expected wireless local area network data generated at least from floor plan data about a site of the wireless local area network, and placement and configuration of a plurality of access points of the wireless local area network (column 13, lines 35-63, values of predicted or expected measurement are obtained from predictive models as analyzed from a database, likewise the actual measurements are obtained through experimental measurements); and based at least on the measured wireless local area network data, changing one or more of: the floor plan data about the site of the wireless local area network, the quantity of the plurality of access points, the placement of the plurality of access points, and the configuration of the plurality of access points (column

13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21, planning of placements of new access points are based on the results of the comparison performed on the actual and predictive measurements).

Regarding claim 2, Rappaport discloses, wherein the measured wireless local area network data includes radio frequency measurements (column 13, lines 35-42).

Regarding claim 3, Rappaport discloses, wherein the measured wireless local area network data includes measured radio frequency signal strength data from the radio frequency measurements and the expected wireless local area network data includes expected radio frequency signal strength data (column 13, lines 35-63).

Regarding claim 4, Rappaport discloses, wherein the measured wireless local area network data includes measured channel data from the radio frequency measurements and the expected wireless local area network data includes expected channel data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 5, Rappaport discloses, wherein the measured wireless local area network data includes measured access point position data of the plurality of access points from the radio frequency measurements and the expected wireless local area network data includes expected access point position data of the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 6, Rappaport discloses, wherein the measured wireless local area network data includes media access control address data associated with the radio

frequency measurements and the expected wireless local area network data includes expected media access control address data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 7, Rappaport discloses, wherein changing the floor plan data includes making one or more changes in objects in the floor plan data associated with radio frequency attenuation factors (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 8, Rappaport discloses, wherein changing the floor plan data includes making one or more changes in radio frequency attenuation factors associated with objects in the floor plan data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 9, Rappaport discloses, further comprising: based at least on the measured wireless local area network data, changing one or more of: at least one of quantity, placement, and configuration of one or more distribution system switches at the site for the wireless local area network, the one or more distribution system switches connecting to the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 10, Rappaport discloses, wherein changing the configuration of the plurality of access points includes making one or more changes in power levels for the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 11, Rappaport discloses, wherein changing the configuration of the plurality of access points includes making one or more changes in channel assignments for the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 12, Rappaport discloses, further comprising: generating work order data based at least on the one or more changes for one or more of: the floor plan data about the site of the wireless local area network, the quantity of the plurality of access points, the placement of the plurality of access points, and the configuration of the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 13, Rappaport discloses, wherein the work order data includes installation instructions for the plurality of access points of the wireless local area network (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 14, Rappaport discloses, wherein the work order data includes installation instructions for one or more distribution system switches connecting to the plurality of access points of the wireless local area network (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 15, Rappaport discloses, further comprising: displaying coverage data, based at least on the measured wireless local area network data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 16, Rappaport discloses, wherein the coverage data indicates coverage areas of the site serviced by the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 17, Rappaport discloses, wherein the coverage data is indicated with at least the floor plan data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 18, Rappaport discloses, wherein the coverage data depends on a technology standard of the wireless local area network (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 19, Rappaport discloses, wherein at least one coverage area supports one or more technology standards of the wireless local area network (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 20, Rappaport discloses, further comprising: displaying capacity data based at least on the measured wireless local area network (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 21, Rappaport discloses, wherein the capacity data includes one or more throughput rates for stations serviced by the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 22, Rappaport discloses, wherein the capacity data includes one or more average desired association rates for stations serviced by the plurality of

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access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 23, Rappaport discloses, wherein the capacity data includes one or more quantities of stations serviced by the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 24, Rappaport discloses, wherein the capacity data includes one or more quantities of active stations serviced by the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 25, Rappaport discloses, wherein the capacity data includes one or more quantities of total stations serviced by the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 26, Rappaport discloses, further comprising: displaying floor plan data, based at least on the measured wireless local area network data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 27, Rappaport discloses, wherein the floor plan data is imported (0039-0043; 0045; 0050; 0058).

Regarding claim 28, Rappaport discloses, wherein the floor plan data is manually drawn via computer (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 29, Rappaport discloses, wherein objects in the floor plan data are associated with radio frequency attenuation factors (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 30, Rappaport discloses, wherein objects in the floor plan data are associated with radio frequency attenuation factors that depend on a technology standard of the wireless local area network (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 31, Rappaport discloses, wherein the radio frequency measurements include access point radio frequency measurements taken by access points of the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 32, Rappaport discloses, wherein the access points of the plurality of access points take the radio frequency measurements by at least listening to wireless local area network traffic (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 33, Rappaport discloses, wherein the measured wireless local area network data include network statistics (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 34, Rappaport discloses, wherein the network statistics include one or more of: Ethernet statistics, Ethernet errors, radio statistics, and session statistics (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 35, Rappaport discloses, wherein the network statistics are collected for one or more of: the site of the wireless local area network, one or more buildings of the site of the wireless local area network, one or more floors of the site of the wireless local area network, one or more portions of the site of the wireless local area network, one or more distribution system switches connecting to the plurality of access points, one or more access points of the plurality of access points, and one or more ports of the one or more distribution system switches (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 36, Rappaport discloses, wherein the network statistics include one or more of: octet data, packet data, and error data (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21).

Regarding claim 37, Rappaport discloses, code verifying a plan for a wireless local area network, comprising: code that performs receiving measured wireless local area network data (column 13, lines 6-53, RF measurements are received for performance evaluation); code that performs comparing the measured wireless local area network data with expected wireless local area network data (column 13, lines 35-53, experimental, i.e., measured values, are compared to predicted values, as used via a predictive model, wherein the engineer studies the interrelations between the actual measurements and the predicted ones), the expected wireless local area network data generated at least from floor plan data about a site of the wireless local area network, and placement and configuration of a plurality of access points of the wireless local area network (column 13, lines 35-63, values of predicted or expected measurement are

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obtained from predictive models as analyzed from a database, likewise the actual measurements are obtained through experimental measurements); and code that performs, based at least on the measured wireless local area network data, changing one or more of: the floor plan data about the site of the wireless local area network, the quantity of the plurality of access points, the placement of the plurality of access points, and the configuration of the plurality of access points (column 13, lines 8-67-column 14, lines 1-25; column 16, lines 15-67-column 17, lines 1-21, planning of placements of new access points are based on the results of the comparison performed on the actual and predictive measurements).

Regarding claim 38, Rappaport discloses, an apparatus verifying a plan for a wireless local area network, comprising: means for receiving measured wireless local area network data (column 13, lines 6-53, RF measurements are received for performance evaluation); means for comparing the measured wireless local area network data with expected wireless local area network data (column 13, lines 35-53, experimental, i.e., measured values, are compared to predicted values, as used via a predictive model, wherein the engineer studies the interrelations between the actual measurements and the predicted ones), the expected wireless local area network data generated at least from floor plan data about a site of the wireless local area network, and placement and configuration of a plurality of access points of the wireless local area network (column 13, lines 35-63, values of predicted or expected measurement are obtained from predictive models as analyzed from a database, likewise the actual measurements are obtained through experimental measurements); and means for,

based at least on the measured wireless local area network data, changing one or more of: the floor plan data about the site of the wireless local area network, the quantity of the plurality of access points, the placement of the plurality of access points, and the configuration of the plurality of access points (column 13, lines 35-63, values of predicted or expected measurement are obtained from predictive models as analyzed from a database, likewise the actual measurements are obtained through experimental measurements).

Regarding claim 39, Rappaport discloses generating a wireless coverage estimate using floor plan data about a site of a wireless local area network (WLAN) (Figure 1, Figure 5, #'s 10-11, col. 6, lines 28-43, col. 7, lines 15-37); generating a wireless capacity estimate using the floor plan data about the site of the WLAN (Figure 5, #'s 10-11, col. 13, lines 35-63, values of predicted or expected measurement are obtained from predictive models as analyzed from a database, likewise the actual measurements are obtained through experimental measurements, which on predicted measurements, capacity; i.e., estimate of capacity measurements); receiving measured WLAN data, including wireless coverage data and wireless capacity data (column 13, lines 6-53, RF measurements are received for performance evaluation); comparing the measured WLAN data with the wireless coverage estimate and the wireless capacity estimate (Figures 3-7, col. 13, lines 35-53, experimental, i.e., measured values, are compared to predicted values, as used via a predictive model, wherein the engineer studies the interrelations between the actual measurements and the predicted ones); based at least on the measured WLAN data, changing one or more

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of: the floor plan data about the site of the WLAN, the quantity of the plurality of access points, the placement of the plurality of access points, and the configuration of the plurality of access points (col. 13, lines 8-67-col. 14, lines 1-25; col. 16, lines 15-67-col. 17, lines 1-21, Figures 3-7, planning of placements of new access points are based on the results of the comparison performed on the actual and predictive measurements).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R. Perez whose telephone number is (571) 272-7846. The examiner can normally be reached on 10:30 - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William H. Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


23/1/07

Julio R Perez
Examiner
Art Unit 2617


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